CLAIMS

What is claimed is:

1. A cooling device for an electric or electronic apparatus having a body casing containing a component generating heat, comprising:

an inhaling member drawing air and then discharging the air heated by the heat generated from the component of the electric or electronic apparatus;

an exhausting member communicating with the inhaling member to receive the heated air from the inhaling member and then discharge the heated air;

a fan provided adjacent to the exhausting member to forcibly draw the heated air from the exhausting member and discharge the heated air; and

a heat exchanger absorbing the heat from the heated air discharged from the fan, and discharging the heat through the body casing of the electric or electronic apparatus.

2. The cooling device according to claim 1, wherein the fan comprises:

an accommodating member formed with a seating part accommodating the fan.

3. The cooling device according to claim 1, wherein the heat exchanger comprises:

a plurality of heat absorbing fins;

a refrigerant filled inside the heat exchanger to make a heat exchange with the heated air passing through the heat absorbing fins;

a heat discharging plate attached to the body casing of the electric or electronic apparatus to discharge a heat energy of the refrigerant received from the heated air; and

a refrigerant pipe connecting the heat absorbing fins and the heat discharging plate to allow the refrigerant to circulate the heat exchanger.

4. An electric or electronic apparatus having a component generating heat, comprising:

a cooling device comprising:

an inhaling member drawing air and then discharging the air heated by the heat generated from the component of the electric or electronic apparatus,

an exhausting member communicating with the inhaling member to receive the heated air from the inhaling member and then discharge the heated air,

a fan provided adjacent to the exhausting member to forcibly draw the heated air from

the exhausting member and discharge the heated air, and

a heat exchanger absorbing the heat from the heated air discharged from the fan; and

a body casing on which the cooling device is mounted, in which the component is disposed, and through which the heat is discharged from the heat exchanger.

5. The apparatus according to claim 4, wherein the body casing is structured so as to be closed from an outside of the apparatus.

6. The apparatus according to claim 4, wherein the fan of the cooling device comprises:

an accommodating member formed with a seating part accommodating the fan.

7. The apparatus according to claim 6, wherein the body casing is structured to be closed from an outside of the apparatus.

8. The apparatus according to claim 4, wherein the heat exchanger comprises:

a plurality of heat absorbing fins;

a refrigerant filled inside the heat exchanger to make a heat exchange with the heated air passing through the heat absorbing fins;

a heat discharging plate attached to the body casing of the electric or electronic apparatus to discharge a heat energy of the refrigerant received from the heated air; and

a refrigerant pipe connecting the heat absorbing fins and the heat discharging plate to allow the refrigerant to circulate the heat exchanger.

9. The apparatus according to claim 8, wherein the body casing is structured so as to be closed from an outside of the apparatus.

10. An apparatus having a component generating heat in a computer, comprising:

a body casing having an inside surface forming an inside containing the component inside thereof; and

a cooling device mounted on the inside surface of the body casing, the cooling device comprising:

an inhaling member drawing air heated by the heat of the component in the inside of the body casing,

an exhausting member communicating with the inhaling member to receive the heated air from the inhaling member,

a fan forcibly drawing the heated air from the inhaling member through the exhausting member, and discharging the heated air into the inside of the body casing, and

a heat exchanger absorbing the heat from the heated air discharged from the fan, and discharging the heat through the inside surface of the body casing.

11. The apparatus of claim 10, wherein the component is disposed on a first portion of the inside surface of the body casing, and the heat exchange is mounted on a second portion of the inside surface of the body casing.

12. The apparatus of claim 10, wherein the inhaling member is disposed above the component to collect the heated air heated by the heat generated from the component.

13. The apparatus of claim 10, wherein the inhaling member comprises:

an inlet having an inlet area corresponding to an outer surface of the component in a direction parallel to the inside surface of the body casing to collect the heated air.

14. The apparatus of claim 13, wherein the inhaling member comprises:

an outlet having an outlet area smaller than the inlet area, and coupled to the exhaling member.

15. The apparatus of claim 10, wherein the exhausting member comprises:

an inlet having an inlet area to communicate with the inhaling member;

an outlet having an outlet area larger than the inlet area to communicate with the heat exchanger.

16. The apparatus of claim 15, wherein the outlet area of the outlet of the exhausting member corresponds to an outer surface of the heat exchanger in a direction parallel to the inside surface of the body casing.

17. The apparatus of claim 15, wherein the outlet of the exhausting member is disposed above the heat exchanger to discharge the heated air toward the heat exchanger.

18. The apparatus of claim 15, wherein the exhausting member comprises an inner surface, and the fan is mounted on the inner surface of the exhausting member.

19. The apparatus of claim 10, wherein the exhausting member comprises a coupling part coupled between the inhaling member and the exhausting member, the coupling member comprises a first portion connected to the inhaling member and a second portion connected to the exhausting member, and the second portion of the coupling member is spaced apart from the inside surface of the body casing by a first distance while the first portion of the coupling member is spaced-apart from the inside surface of the body casing by a second distance smaller than the first surface.

20. The apparatus of claim 10, wherein the heat exchanger comprises:

a heat absorbing fin contacting the heated air discharged from the fan to absorb the heat from the heated air;

a heat discharging plate attached to the inside surface of the body casing to discharge the heat received from the heat absorbing fin;

a refrigerant pipe connecting the heat absorbing fin to the heat discharging plate; and

a refrigerant filled inside the heat absorbing fin, heat discharging plate and the refrigerant to make a heat exchange.

21. The apparatus of claim 20, wherein the exhausting member is disposed above the heat absorbing fin, and the heat absorbing fin is disposed above the heat discharging plate.

22. The apparatus of claim 10, wherein the inhaling member and the component are disposed on a first portion of the inside surface of the body casing, and the exhausting member and the heat exchanger are disposed on a second portion of the inside surface of the body casing.

23. The apparatus of claim 10, wherein the exhausting member comprises a coupling member disposed between the first portion and the second portion to couple the inhaling member to the exhausting member.

24. An apparatus having a component generating heat in a computer, comprising:

a body casing having an inside surface forming an inside containing the component and

inside air thereof, and having an outside surface contacting an outside air; and

a cooling device mounted on the inside surface of the body casing to directly contact the inside surface of the body casing, and discharging the heat generated from the component to the outside air through the inside surface and the outside surface of the body casing.